Claims

1. A method of treating a vascular, muscle, hepatic, pancreatic, or neural disease, said method comprising the step of administering to a patient a pluripotent cell or a progeny cell derived therefrom prepared from human umbilical cord blood, placental blood, or a blood sample from a newborn human, wherein said pluripotent cell (a) expresses SH2, SH3, SH4, CD13, CD29, CD49e, CD54, and CD90 antigen markers; (b) does not express CD14, CD31, CD34, CD45, CD49d, or CD106 antigen markers; and (c) is capable of differentiating into one or more of a mesenchymal pluripotent cell, a hematopoietic pluripotent cell, a neural pluripotent cell, or an endothelial pluripotent cell.

2. The method of claim 1, wherein said disease is a vascular disease.

3. The method of claim 1, wherein said disease is a smooth muscle or cardiac muscle disease.

4. The method of claim 1, wherein said disease is a hepatic disease.

5. The method of claim 1, wherein said disease is a pancreatic disease.

6. The method of claim 1, wherein said disease is a neural disease.

7. The method of claim 1, wherein said method comprises administering said cell to effect organ regeneration.

8. The method of claim 1, wherein multiple said cells are used to grow a blood vessel in vitro, which is implanted in said patient.

9. The method of claim 1, wherein said progeny cell of said pluripotent cell is administered to said patient.

10. The method of claim 9, further comprising inducing said progeny cell to express an endothelial cell marker before administering said progeny cell to said patient.

11. The method of claim 9, wherein said progeny cell expresses a marker recognized by a P1H12 monoclonal antibody.

12. The method of claim 9, further comprising inducing said progeny cell to express a liver cell marker before administering said progeny cell to said patient.

13. The method of claim 9, further comprising inducing said progeny cell to express a pancreatic cell marker before administering said progeny cell to said patient.

14. The method of claim 9, further comprising inducing said progeny cell to express a nerve cell marker before administering said progeny cell to said patient.

15. The method of claim 9, further comprising inducing said progeny cell to express a cardiac or smooth muscle cell marker before administering said progeny cell to said patient.

16. A method of whether a test agent induces differentiation of an isolated pluripotent cell, said method comprising contacting said pluripotent cell characterized by the expression of SH2, SH3, SH4, CD13, CD29, CD49e, CD54, and CD90 antigens, and lacking the expression of CD14, CD34, CD45, CD49d, and CD106 antigens with said test agent and detecting a change in marker expression of said contacted pluripotent cell, wherein said change indicates that said test agent induces differentiation of said isolated pluripotent cell.

17. A method for producing a population of cells characterized by the expression of SH2, SH3, SH4, CD13, CD29, CD49e, CD54, and CD90 antigen markers, and lacking the expression of CD14, CD34, CD45, CD49d, and CD106 antigen markers, said method comprising the steps of:

a) providing pluripotent cells derived from umbilical cord blood and capable of differentiating into mesenchymal pluripotent cells, hematopoietic pluripotent cells, neural pluripotent cells, or endothelial pluripotent cells;

b) culturing said pluripotent cells in a medium containing dexamethasone for a time sufficient to expand said population of pluripotent cells; and

c) isolating said pluripotent cells from said culture, wherein greater than 20% of said isolated pluripotent cells are positive for SH2, SH3, SH4, CD13, CD29, CD49e, CD54, and CD90 markers, and negative for CD14, CD34, CD45, CD49d, and CD106 markers.

18. A composition comprising multiple pluripotent cells that are positive for SH2, SH3, SH4, CD13, CD29, CD49e, CD54, and CD90 markers, and negative for CD14, CD34, CD45, CD49d, and CD106 markers, suspended a pharmaceutically acceptable carrier.

19. A pluripotent progeny cell obtained by the *in vitro* or *ex vivo* transfection with DNA encoding a desired protein of a pluripotent cell positive for SH2, SH3, SH4, CD13, CD29, CD49e, CD54, and CD90 markers, and negative for CD14, CD34, CD45, CD49d, and CD106 markers.

20. A composition comprising multiple cells of claim 19, suspended in a pharmaceutically acceptable carrier.

21. The composition of claim 18 or 20, wherein the pharmaceutically acceptable carrier is selected from the group consisting of saline, a gel, a hydrogel, a sponge, and a matrix.

22. A therapeutic method comprising administering to a patient in need thereof a therapeutically effective amount of the composition of claim 20.

23. The method of claim 22, wherein said cells express in said patient a therapeutically effective amount of said desired protein.

24. The method of claim 1, wherein said pluripotent cell is capable of differentiating into all of the cell types of isolating said pluripotent cells from said culture, wherein greater than 20% of said isolated pluripotent cells are positive for SH2, SH3, SH4, CD13, CD29, CD49e, CD54, and CD90 markers, and negative for CD14, CD34, CD45, CD49d, and CD106 markers.

25. Use in the preparation of a medicament for the treatment of a vascular, hepatic, pancreatic or neural disease, of a pluripotent cell or progeny thereof prepared from umbilical cord blood, placental blood, or blood prepared from a newborn human, wherein said pluripotent cell a) is positive for SH2, SH3, SH4, CD13, CD29, CD49e, CD54, and CD90 markers, b) is negative for CD14, CD34, CD45, CD49d, and CD106 markers, and c) is capable of differentiating into one or more of a mesenchymal pluripotent cell, a hematopoietic pluripotent cell, a neural pluripotent cell, or an endothelial pluripotent cell.

26. The use of claim 25, wherein said disease is a vascular disease.

27. The use of claim 25, wherein said disease is a smooth muscle or cardiac muscle disease.

28. The use of claim 25, wherein said disease is a hepatic disease.

29. The use of claim 25, wherein said disease is a pancreatic disease.

30. The use of claim 25, wherein said disease is a neural disease.

31. The use of claim 25, wherein the cells are used for organic regeneration.

32. The use of claim 25, wherein said cell is a said progeny cell that expresses the endothelial cell marker P1H12.